

Claims 1, 8, and 17 have been amended to substitute for the limitation “non-extensible exterior sheet” the limitation “the exterior sheet being less extensible than the interior sheet.” This amendment is made not in response to any rejection or objection in the Office Action, or for purposes of patentability, but rather to avoid the potential for an absolutist (and unreasonable) construction of the limitation “non-extensible” which would unduly restrict the scope of the claims. Support for this amendment is found on page 5, lines 24-25 and page 8, lines 13-15. Other amendments that have been made to claim 1 are explained below.

Claim 20 was added as an independent claim that incorporates many of the limitations of the previous claims, except for referring to “extensions” instead of “tabs” (supported by page 10, lines 4-5), and in addition, reciting that the interior sheet is air impermeable (supported by page 8, line 1-2) and that an outer surface of the interior sheet comprises a springy, open pile inner surface (supported by page 11, lines 24-25).

A.
Objection to the Specification

The Examiner objected to the specification because it recites an embodiment in which the sheets are air impermeable and vapor permeable at the same time. The Examiner stated that “[I]t would seem that if the fabric is air impermeable it would also be vapor permeable.” The Applicant respectfully traverses the objection.

Without explaining the molecular physics involved, it should suffice to show that such materials are well-known and commercially available. Such materials are specified, for example, in the Department of Energy’s “Low Energy Building Design Guidelines” for new federal facilities. See <http://www.nrel.gov/docs/fy01osti/25807.pdf>; see also <http://www.nrel.gov/docs/fy01osti/25807.pdf> (recommending use of “vapor permeable

air barriers” for building materials while also stating that the air barriers must be “air impermeable”); *see also* U.S. Patent No. 6,355,333; 6,277,770. Applicant respectfully requests withdrawal of this objection.

B.
Double Patenting issues

The Examiner rejected all of the claims on the basis of the judicially-created doctrine of obviousness-type double patenting. A terminal disclaimer accompanies this submission to overcome this objection.

C.
Section 112 issues

The Examiner rejected claims 1-19 under section 112 ¶ 2. The Examiner objected to claim 1’s description of a foot wrap. While the undersigned respectfully believes that the meaning of the original wording was plain, claim 1 has been amended to clarify that it is the interior and exterior sheets together as a whole, and not just where they are joined, that forms the foot wrap.

The Examiner also objected to several of the claims on the basis that the limitation “at an interior side of said exterior sheet” seem to imply that the bladder is something other than the exterior sheet. The Applicant does not believe that a person of ordinary skill in the art would read the limitation “comprising” so narrowly, even applying a strict construction of the language. Nevertheless, for the sake of improved claim clarity, Applicant has dropped the “at an interior side of said exterior sheet” language in favor of a limitation stating that the foot wrap encompasses an inflatable bladder. It will be understood that the amended limitation, as written, is inclusive of bladders formed by the interior and/or exterior sheets, or parts thereof, as well as bladders

that have their own distinct skins. This amendment is believed to obviate the rejections of claim 2, which states that the inflatable bladder comprises at least a portion of said interior sheet, and of claim 3, which recites that the bladder is made up of the exterior sheet.

The Examiner also objected to claim 1 on the basis that it did not specify what structure or means of the interior sheet provides the function of maintaining the bladder substantially wrinkle-free. The undersigned respectfully submits that the structure is readily apparent, as the Examiner constructively admits when arguing, on page 5 of the office action, that "it would appear the elastic nature of the inner sheet would maintain the bladder wrinkle free because it is elastic and would return to its original shape." Nevertheless, for purposes of claim clarity, claim 1 has been further amended to specify that it is the elasticity of the interior sheet that provides this function. Support for this amendment is provided on page 8, lines 8-22 of the specification.

The Examiner also objected to claims 11-19 on the basis that they confused the different parts containing the hook-type connector. The Applicant respectfully traverses this rejection. The claims refer to "hook-type connectors" on inner surfaces of the tab, and corresponding hook-type connector *compatible* base material on the exterior sheet for engaging the hook-type connectors. The language "hook-type connector *compatible* base material" is supported by page 7, lines 21-22 of the specification. That terminology was intentionally chosen over a recitation of "loop-type" connecting material because the former limitation arguably covers a larger group of materials than the latter limitation. While a recitation of "loop-type" connector would possibly improve the clarity of the claim, it would do so at a potential loss of claim coverage. The undersigned maintains

that the claims, as currently written, meet the threshold requirements of section 112 ¶ 2 for clarity and precision. The Applicant respectfully requests that the rejection be withdrawn.

Finally, the Examiner objected to the word “thereof” in claim 11, line 11, because it is arguably a dangling modifier. The undersigned respectfully submits that not every incident of suboptimal grammar justifies a section 112 rejection. *See* MPEP § 2173.02 (“Some latitude in the manner of expression and the aptness of terms should be permitted even though the claim language is not as precise as the examiner might desire.”). Section 112, paragraph 2 requires that the claims particularly point out and distinctly claim the subject matter which the applicant regards as his invention. Only a very strict and unreasonable mechanical construction of the claim would construe “thereof” to refer to “inner surface.” But this would render the claim meaningless – “said first tab comprises a first releasable hook-type connector permanently attached to an inner surface of a distal end of the inner surface.” While the inartful wording might irritate a person of ordinary skill in the art, such a person would quickly comprehend that “thereof” necessarily and unambiguously refers to the “first tab.” There is no other reasonable interpretation of the claim language. Accordingly, the claim language is sufficiently distinct to satisfy the requirements of section 112.

The undersigned sincerely appreciates the Examiner’s insights in drafting succinct and more grammatically optimal claims. *See* MPEP § 2173.02 (“Examiners are encouraged to suggest claim language to applicants to improve the clarity or precision of the language used, but should not reject claims or insist on their own preferences if other modes of expression selected by applicants satisfy the statutory requirement.”).

Applicant is perfectly willing to amend the claim to substitute “the first tab” for the word “thereof,” *but only in response to a suggestion to improve the clarity of the claim*, not in response to a section 112 rejection. Applicant hopes that the Examiner will appreciate that in light of the Federal Circuit’s *Festo* case denying doctrine of equivalents coverage to any claim amended for purposes of patentability, the Applicant is reluctant to amend claims simply to improve their grammatical clarity, when their scope and meaning are sufficiently distinct to satisfy section 112. The Applicant respectfully requests withdrawal of the section 112 rejection.

The undersigned respectfully notes that while the Examiner rejected all 19 claims, the Examiner did not specify any other specific grounds for rejection of claims 8-19. After reviewing the wording of the other independent claims, the undersigned believes that the Examiner’s rejection of them was based on the perception that claim 1’s language generated confusion about the meaning of similar limitations in the other claims. The undersigned believes that claim 1’s amendments eliminate any purported inconsistency. Therefore, it is believed that these amendments adequately address the Examiner’s section 112 concerns.

D.
Section 103(a) issues

The Examiner rejected claims 1-7 under 35 U.S.C. 103(a) as unpatentable over U.S. Patent No. 4,971,044 to Dye in view of U.S. Patent No. 4,375,217 to Arkans. The undersigned respectfully traverses the rejection.

Dye is directed to a sequential compression device that encloses a substantial part of the patient’s limb and applies cyclical pressure to the calf area. Col. 1, lines 55-57; col. 4, lines 30-35. Dye does not apply an inflatable bladder to the sole of the foot.

Rather, Dye applies a foot pad 36 "of generally oval shape" that is "non-pressurizably disposed between the sheet 14 and the film 22." Col. 4, lines 14-17. Indeed, Dye observes that "[i]t will also be seen from the foregoing description that there is no compression applied to the bottom of the foot." Col. 5, lines 38-40.

Claim 1 has been amended to recite that the inflatable bladder is disposed to apply pressure to the sole of a human foot. Support for this amendment is found on page 5, lines 6-5 and page 11, lines 9-11. Dye does not teach the application of pressure to the sole of the foot. On the contrary, it teaches away from it. Accordingly, Applicant respectfully requests that the rejection be withdrawn.

The Examiner also rejected claims 1-19 under 35 U.S.C. 103(a) as unpatentable over U.S. Patent No. 4,947835 to Kartheus in view of U.S. Patent No. 5,052,377 to Frajderrajch. The undersigned respectfully traverses the rejection.

With respect to claim 1, Kartheus does not teach a foot wrap comprising an interior elastic fabric sheet in combination with an exterior less extensible fabric sheet. On the contrary, Kartheus teaches that "[t]he two layers 14a and 14b . . . may be formed by single folding-over of a larger single layer." Col. 4, lines 60-62. Similarly, there is no teaching or suggestion in Frajderrajch that the "two flexible walls 6 and 7" be comprised of different kinds of material. Although the Examiner asserts that it would have been obvious to make the outer sheet non-extensible in order to direct the expanding bladder inward toward the foot, Kartheus teaches away from such a modification.

With respect to claims 2-7, the Examiner suggested that "it would have been obvious to simplify the wrap by making the wrap comprise single inner and outer layers bonded together forming bladders." The Applicant respectfully disagrees. Kartheus

teaches the use of multiple partially overlapping bladders (see Fig. 5; col. 4, lines 52-53; claim 6). Therefore Kartheus could not be so modified without destroying that invention. Accordingly, there is no teaching, suggestion, or motivation to combine Kartheus with Frajderrajch.

Kartheus and Frajderrajch also fail to teach all of the elements of claims 8-19. Significantly, they fail to disclose an “elongate second tab” to wrap around the heel (8-19). The Examiner stated that Kartheus teaches a second tab 44a that wraps around the heel. But the tab 44a is not an elongate one. On the contrary, its transverse (width) dimension is greater than its longitudinal (wrap around) dimension. This difference is not without significance. One of the primary objects of the invention is to “provide a small, lightweight, and comfortable device,” an object that the extremely complex bulky device of Kartheus does not even begin to meet. Page 4, line 18. One advantage of Applicant’s elongate tab is that it embraces the back of the heel – proximate to the narrowest part of the leg. Page 5, lines 15-20. The protrusion of the heel bone helps prevent the tab from slipping down the leg and off the foot. At the same time, the increasing girth of the human leg from the ankle toward the calf resists movement of the tab up the leg. The greater the transverse extent of the third tab, the greater is the likelihood of slippage. Thus, Applicant’s claimed invention is more likely to stay on the foot than Kartheus’s device.

Kartheus and Frajderrajch also fail to teach the following limitations:

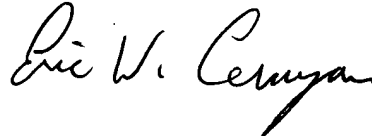
- The second tab being generally perpendicular to the first tab when the foot wrap is laid flat (9-12, 14-16); *compare* Kartheus, Fig. 6 (when laid flat, the tabs are substantially parallel).
- A third tab that is generally opposed to the first tab (10-12, 15-19); *compare* Kartheus, Fig. 6 (disclosing only two tabs); *see also* THE AMERICAN HERITAGE DICTIONARY OF THE AMERICAN LANGUAGE (8th ed. 2000) (defining

“tab” as a “projection, flap, or short strip attached to an object to facilitate opening, handling, or identification”).

- The exterior sheet or outer surface *consisting essentially of* a hook-type connector compatible base material (11-16); *compare* Kartheus, Fig. 6 (disclosing VELCRO patches 44a, 44b, 45a, and 45b overlying the exterior sheet or outer surface)¹.
- The inner surface of said interior and exterior sheets comprising heat-weldable laminates, the exterior sheet being heat-welded to the interior sheet to form the one-piece foot wrap (6, 18-19); *compare* Kartheus, col. 4, lines 65-69 (“The double-layer sleeve envelope is similarly held together by means of a VELCRO closure (not shown) after it has been laid around the patient’s extremity which is to be treated.”).

In view of the foregoing, the Applicant respectfully requests withdrawal of the section 103(a) rejections. Believing that it has addressed all the matters raised in the Examiner’s June 20, 2000, Office Action, Applicant respectfully requests allowance of the claims.

Respectfully submitted,



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¹ This is a patentably significant difference because it enables the foot wrap to “fit a wide range of foot sizes.” Page 11, lines 12-13.